Claims

1. An image display apparatus comprising:

image display devices arranged in matrix form, driven via a plurality of row wirings and column wirings, and used for forming an image;

scanning means for sequentially selecting and scanning the row wirings;

modulation means for outputting a modulated signal to be applied to the column wirings; and

voltage drop compensation means for calculating corrected image data for reducing an influence of voltage drops due to at least resistance components of the row wirings, with respect to image data,

wherein the modulated signal is a pulse-width modulated voltage signal having a plurality of voltage amplitude values,

the modulation means output a modulated signal in which a pulse width and/or a voltage amplitude value of the modulated signal are expanded on the basis of the corrected image data.

2. An image display apparatus according to claim 1, wherein the modulated signal has a waveform obtained by increasing a time width of the predetermined voltage amplitude value by one unit time when input data of the modulation means is increased by one unit, and, in the case

where the time width of the waveform exceeds an upper limit of a time width capable of being modulated, takes a waveform obtained by increasing the predetermined voltage amplitude value by one unit voltage.

3. An image display apparatus according to claim 2, wherein the voltage drop compensation means includes:

effective voltage calculating means for converting the image data into an effective voltage value obtainable when modulation is performed on the basis of the image data;

compensation value calculating means for calculating a compensation value for reducing an influence of voltage drops due to at least resistance components of the row wirings, with respect to the effective voltage value;

operation means for performing an operation on the compensation value and the effective voltage value to calculate a corrected effective voltage value; and

conversion means for converting the corrected effective voltage value into the corrected image data.

4. An image display apparatus according to claim 3, wherein the voltage drop compensation means calculates the corrected image data with respect to image data obtained by multiplying the image data by a gain of greater than 0 but not greater than 1, so that the corrected image data is contained in an input range of the modulation means.

5. An image display apparatus according to claim 3, wherein the modulation means outputs the modulated signal on the basis of limited range-corrected image data obtained by multiplying the corrected image data by a gain of greater than 0 but not greater than 1, so that the limited range-corrected image data is contained in an input range of the modulation means.